# AN INQUIRY

INTO THE

# MORTALITY FROM CONSUMPTION

## IN LIFE INSURANCE COMPANIES,

WITH A

Consideration of its Cause, and Suggestions for its Abatement.

A REPORT READ BEFORE THE OHIO STATE MEDICAL SOCIETY, AT ITS THIRTIETH ANNUAL SESSION, JUNE 15, 1875.



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WITH the causes, pathology, physical signs, and treatment of phthisis pulmonalis you are familiar, and it is not my intention, or province, to treat of them, or even of the disease itself, except so far as it has a bearing on Life Insurance.

My aim is simply to call the attention of the society to the vast influence which Phthisis exerts on Life Insurance, briefly discuss the great mortality from it among insured lives, make a few suggestions for its abatement, and incidentally consider some of the duties, difficulties, and embarrassments of the Medical Examiner.

Dr. Sieveking says: "Among the features that may be regarded as characteristic of modern Christian society, life insurance stands prominently forward as peculiarly unselfish. Its main object is provision for those whom death deprives of their bread-winner and protector, and entails self-denial and forethought on the part of the individual who takes out a policy. . . . The more the principles of life insurance are understood, the more certain they are to be appreciated and acted upon."

During the year 1874, in the State of Ohio, death claims amounting in the aggregate to $1,292,365.00 were paid by the

life insurance companies doing business in the State. And there was at risk during the same period $137,630,545.00 upon the lives of citizens of our State. An immense sum based upon a slender tenure, all of which must inevitably be paid within the next forty or fifty years. Large as it is, yet when we consider that there are but 55,716 policy-holders in the State, whilst the population of Ohio numbers nearly three millions, we will realize that life insurance is but in its infancy. A business with such immense interests requires the greatest care and caution in its management. Life insurance is essentially a commercial contract between two parties—the company and the applicant for insurance. The company agrees to pay a given sum to the heirs of an individual after his death, provided that during life he will comply with certain stipulated conditions. Chief and first of said conditions being that a competent person, after a careful examination, shall certify that, in his judgment, the said individual will live out his *expectancy*. It is evident that the safety of the company is based upon the correctness of the tables of expectancy of life, and the ability and wisdom of the individual who makes the personal examination.

In determining the average expectation of life at different ages, some of the ablest minds of the world have devoted their time and attention ; namely, Dr. Farr, Dr. Guy, Mr. Nieson, and others. These tables have been verified in so many different ways that their accuracy is not questioned. We are informed that "there are few things less subject to fluctuation than the duration of human life in a multitude of individuals." If, then, the tables of expectancy are correct, the security of the company is narrowed down to the examiner, and the examiner being a physician, the safety of life insurance depends on the medical profession. Does the profession appreciate this impor-

tant and responsible relation? Medical examination for life insurance is a specialty. It requires a special kind of knowledge not found in ordinary text books of medicine, not taught in our medical colleges, and not suggested by the clinical study of disease. A man may be a competent and successful practitioner of medicine and not be a good examiner. Hence a special study of the problems which underlie life insurance, namely, longevity, inheritance, etc., and a clear conception of the significance and importance of all questions propounded in the medical examiner's blank are necessary qualifications for the intelligent discharge of a medical examiner's duties.

It will be impossible, in the limits of this paper, to consider more than one of the *medical questions* which are associated with the *system of life insurance.* Questions which it behooves every gentleman to familiarize himself with who accepts the position of medical examiner. I have selected probably the most important one and invite your attention to a consideration of

## THE INFLUENCE OF CONSUMPTION ON LIFE INSURANCE.

Phthisis pulmonalis is, of all diseases, the one which life insurance companies most fear. And it is in the detection of traces of this formidable disease that medical examiners render the most service to the companies which employ them. Dr. Farr, Registrar-general of England, stated in one of his reports, "That consumption is the greatest, the most constant, the most dreadful, and the most fatal of all the diseases which afflict humanity." In 1871 there were seventy thousand deaths from tubercular disease in England.

Dr. J. G. Fleming, Medical Adviser of the Scottish Amicable Life Insurance Company, states, in a recent report, that

"of all diseases phthisis is the one which assurance companies most dread, as from it the greatest amount of premature mortality occurs."

Mr. H. W. Porter, in a paper entitled, "An inquiry into the question as to how far the inordinate mortality in this country [England] is controllable by human agency," states, "consumption is the great terror of the country. It has hitherto defied all human skill, and entirely baffled medical science."

In our own country the mortality tables of insurance companies indicate that consumption is responsible for one death in every four, and often for one in every three of the total mortality.

The policy-holders of a life insurance company constitute a society of selected lives, which should present a more favorable mortality record than that of the community at large. An applicant for life insurance must submit to an examination at the hands of a medical gentleman, who must certify that he is in sound health, and that his prospects for living out his expectation is favorable, before he can receive a policy. A medical examination, properly made and accurately reported, should and will guarantee an insurance company that its death-rate will be below that of the population at large. What are the actual results?

According to the last census report *fifteen per cent of all deaths in the United States were from consumption.*

The Registrar-General of Great Britain reports the mortality rom consumption in that country for the same period to be the same (15). The mortality from consumption among the selected lives of insurance companies is from 25 to 30 per cent.

It is true that the general mortality represents deaths at all ages, whilst the insured lives represent few under sixteen years. When this and all other exceptions are fully allowed for, the fact

still remains that consumption claims a larger percentage of victims from selected lives than from the population at large, even after excluding those under sixteen years of age. If this be so, and all insured lives have been examined by medical men and recommended by them as sound and safe lives, is not this excessive mortality an opprobrium to the profession—at least that portion who are medical examiners?

It is true that individuals whose tenure upon life is doubtful will be more solicitous for the benefits of life insurance than those who know that vigorous health and long life are their family inheritance.

It is equally true that the agent—the typical insurance agent—is a man of indomitable zeal, ready speech, emphatic utterance, and irresistible push. His object in life is to insure mankind and pocket the commissions. Every man whom he persuades to make an application for insurance whom the medical examiner does not recommend is the equivalent of so many dollars out of his pocket.

In addition to this, in many cases the examiner has been appointed at the suggestion of the agent, and is led to believe that his continuance depends upon his (the agent's) good will. Then the applicant may be a personal friend, a patient, or a person of great influence in the community, whose good will, or ill will, may be of great benefit or injury to him. These are some of the influences which are brought to bear upon the examiner; and it is not difficult to understand how a weak man, or an unscrupulous one, may be controlled by them. Yet they are considerations which no honorable physician can permit to swerve him from his conviction of duty. Now, what is his duty?

At the threshold of the door which this question opens may be found the cause of the majority of failures of physicians to satisfactorily discharge the medical examiner's duties. A large

proportion of the practitioners of medicine have not given a thought to the medical questions which underlie life insurance. They do not seem to comprehend the full significance of an accurate and detailed family history, and it is difficult to make them understand that one of the most important problems, namely, longevity, is involved in this history. They know that certain diseases are constitutional and transmissible; yet when called upon to examine a party who is in the vigor of manhood, they will often unhesitatingly pronounce him a superior risk, although they may have just recorded the fact that several members of his family have died of hereditary disease. Most inexperienced examiners base their judgment solely upon the personality of the individual examined. "Every tub must stand on its own bottom" is a sentiment which has struck deep roots in American minds, and it is difficult to convince some persons of its fallacy when considering the expectation of an individual life.

Another source of misunderstanding on the part of the examiner is his relation to the company. He does not always understand that in accepting the office of examiner he has obligated himself to act in the company's interest. A physician is in honor bound not to betray the confidence of his patient; yet as medical examiner he is equally bound to set forth every fact having any bearing on his health or family history which a rigid examination can discover.* In every examination the interest and safety of the company must be kept steadily in view. Dr. Brinton aptly says: "With the examiner it is a question of

* If a patient presents himself for examination for life insurance concerning whom the examiner has information bearing on his personal or family history which, if stated, would have a prejudicial influence on his life, said information having been obtained by virtue of his relation as family physician, it is the duty of the examiner to remind him of this information, and of its bearing upon his life, and to inform him that if he makes the examination that it will be his duty to set forth this information.

safety; with the agent it is a question of commissions. The examiner is valued for what he detects and what he prevents. There is no doubt but for the scrutiny of the medical examiner the fraudulent concealment of disease would be so frequent that the present system of life insurance would be impossible. We would have a class which might be regarded as selected expressly for their badness."

As it is, the ugly fact stares us in the face that there are more deaths from consumption among selected lives than from the population at large, even after excluding those under sixteen years of age. Why and how does this occur? Who is responsible? Can it be prevented? These are leading and important questions, which I will endeavor to answer.

1st. *Why does this excessive mortality occur among insured lives?* In my judgment it occurs because individuals who are conscious of the presence of phthisis, or apprehend its development, are more solicitous for the benefits of life insurance for their families than those blessed with vigorous health and a clear family record, and hence a large proportion of this class apply and receive insurance.

2d. *How does it occur that members of this class are accepted?* Insurance companies would not accept them if all the facts in their history were clearly set forth. Hence deception has been practiced somewhere. After a careful examination of a large number of death returns and the applications upon which their insurance was based, I am convinced that the deception mainly occurs in the suppression of facts relating to the family of the applicant; and it is accomplished by giving vague or indefinite answers as to the causes of death of parents, brothers, and sisters—namely, "Do n't know," "change of life," "child-birth," "fever," "exposure," "debility," etc., when, in fact, consumption was the potent factor in producing death.

It is well known that phthisis often stands in abeyance during pregnancy, and as soon as delivery occurs runs a rapid course; and if there be a lurking taint of the disease in a vigorous woman who has successfully passed the perils of child-birth, she is very apt to succumb to the severe strain incident to the climacteric period.

3d. *Who is responsible for the suppression of these important facts?* I should say, first, the companies themselves; second, the agents; third, the applicants; and lastly, the medical examiners.

The company's responsibility lies in the fact of their permitting and even requiring the agent or applicant to fill up the blank pertaining to the family history.

In doubtful cases, when the applicant does not know, or is disposed to avoid a clear expression of the cause of death, a few leading questions from a qualified person will scarcely fail to elicit the probable cause. The knowledge necessary to ask these questions and judge of their replies is only possessed by an expert physician, and forms no part of an agent's education.

Then both agent and applicant are interested parties—the agent's being a pecuniary interest, his commissions amounting to several hundred dollars, often, on a single risk. The Agent's Manual informs him as to the causes of rejection. He knows that if hereditary disease has manifested itself in two or more members of a family, that family is debarred from the benefits of life insurance.

Again most individuals are unwilling to believe that a hereditary taint exists in their family, and when any symptoms manifest themselves they are disposed to ascribe their presence to special causes, not hereditary in their character, as "exposure," "child-birth," etc., and they say, often truthfully, that their relatives were in good health until their "exposure" or "parturition," and hence persuade themselves that these were

the actual causes of death. When such a person is desirous of effecting an insurance on his life, and meets an agent it is not difficult to understand how and why he reports members of his family as having died of "exposure," "child-birth," etc., and it is not difficult to understand why the agent has no interest in sifting the statements of this person, and, furthermore, does not regard it as any part of his duty to doubt the accuracy of his allegations.

The applicant is now passed over to the medical examiner, and the only questions having a bearing upon the family history, which he is expected to consider and answer, are the following: 1. "Has the person any predisposition, either hereditary or acquired, to any local or constitutional disease?" 2. "Have the person's parents, brothers or sisters been afflicted with pulmonary or other diseases, hereditary in their nature?" When the medical examiner comes to these questions he usually casts his eye over the family history, as recorded by the agent or applicant, and if he finds no record of hereditary disease he writes a negative response. His responsibility consists in not subjecting the applicant to a rigid examination as to the alleged causes of all deaths in his family, and satisfying himself as to their correctness, particularly when vague and indefinite expressions have been used.

Just here I may be permitted to state that the Medical Directors, after an experience of over eight years, in the home office of the Union Central Life Insurance Company, supervising the examinations of one thousand six hundred medical examiners, have never had reason to believe that any one of the examiners had intentionally misrepresented or suppressed important facts in their reports. We wish we could bear as positive testimony to their ability and faithful discharge of duty. *Whilst there are many who are thoroughly qualified in all their duties,*

*and conscientious and fearless in their discharge*, there are others who are careless and indifferent to their trust, and some manifest an ignorance which graduates of regular medical colleges should be incapable of.

4. *Can the present rate of mortality from consumption among insured lives be prevented?* In my judgment it can be very materially reduced.

(1.) By connecting all questions pertaining to the family history, and all questions relating to the present or past condition of health of the applicant directly with the medical examiner's blank, and requiring him to answer them. Two companies have adopted this method, and with the most satisfactory results.

(2.) Select the best physician in every local city as the medical examiner, particularly those skilled in physical diagnosis.

(3.) Revise the old rules governing companies in the acceptance of risks having a hereditary taint in their family history and make the conditions such that but few can be accepted. It is great injustice to the better class of risks to compel them to pay premiums sufficiently large to compensate the companies for their heavy losses in this class. I would not deprive these persons of the benefit of insurance, but I would arrange them in a class separate from others, and let their premiums be commensurate with the risk which the mortality tables of insurance companies prove it to be.

The following is a brief statement of the rules which, in the main, govern most companies in the acceptance or rejection of such risks: "Where both father and mother have the disease, and particularly when both have died from it, you must decline the risk. Where one parent has died of it, and it has appeared in the offspring, as a rule the risk should be declined. Where one parent has died of consumption, and the other one is in sound health, with no predisposition to the disease, and the

applicant is in sound health, and *strongly resembles the healthy parent, and is thirty-five or forty years of age*, he may be recommended." These rules are based largely upon the belief that at the age of forty half the danger to consumption is over; and at fifty, three-fourths. Recent investigation seems to antagonize this theory.

The latest English authority, Dr. Sieveking, in his work entitled, "The Medical Adviser in Life Assurance," says: "The proclivity to phthisis commences at puberty, and though the succeeding ten years are generally regarded as the most fertile period of life for the development of this disease, this view is based upon a fallacy, as the disease is statistically shown to occur with almost uniform frequency up to the decline of life. After fifty the proportion of deaths from phthisis to those living is nearly the same as at an earlier period."

On page 131 he states, "In life assurance the claims result largely from phthisis, and it is here that medical selection tells more according to the manner in which it is conducted than in any other form of disease. . . . The tables of Dr. Chamber's "Decennium Pathologicum" give further proof that youth is not to be regarded as the "harvest time" of consumption, and that the proportionate mortality from that disease does not vary between the ages of fifteen and seventy." (Table on page 132.) Under the subject of the special tendency to hereditariness in phthisis, he states, "It is here, therefore, peculiarly necessary that the family, as well as personal antecedents of the future policy-holder, should be carefully investigated. And we warn the medical officer against yielding to the popular impression that this inquiry becomes unnecessary after full manhood is reached, as the danger to phthisis continues beyond the age of sixty."

Dr. Begbie in "A Report on the Cause of Death among the

assured in the Scottish Widows' Fund," states that but *six per cent* of the total mortality was from consumption; and adds, "This gratifying result in the experience of the Society is no doubt due to the care and caution exercised by the Board in the selection of lives as far as possible free from consumptive taint, and chiefly to the rejection, as ineligible, of all the younger applicants for assurance in whose immediate family tubercular disease has unequivocally manifested itself. The effects of this procedure are clearly shown by decennial periods in the two reports."

The Union Central has not adopted the stringent rule of the "Scottish Widows' Fund," but still adheres to the rules which govern most companies in the selection of risks having a constitutional taint in their families. It has, however, permitted the Medical Directors to embody the following schedule pertaining to the family history in the medical examiner's report. (See table on next page.)

We require definite and well considered answers to all the above questions when it is possible to obtain them. Vague expressions, as "change of life," "exposure," "child-birth," "don't know," etc., are not received—or failing to obtain more accurate information are regarded as prejudicial to the life of the applicant. The question of longevity, as well as that of hereditary disease, being involved in the family history, we are particular in requiring the ages and cause of death of grandparents to be specified. A sufficient length of time has not elapsed since the adoption of this plan to present reliable data; yet it is an encouraging fact that during the period of its operation our mortality from consumption has been much lower than before, being 14.28 per cent.

The importance of scanning the family history closely, and requiring the ages and causes of death to be specifically stated, can not be too strongly emphasized. There is no law more

What is your FAMILY HISTORY, according to the following schedule?

☞ In stating the cause of death, avoid such expressions as "*general debility*," "*change of life*," "*fever*," "*exposure*," *or any other indefinite term.* If the expression "*child-birth*" is used, be particular to state how long after the delivery of the child, and also whether there were any symptoms of chest trouble, viz: cough, expectoration, loss of flesh, night-sweats, etc.

| | Age if Living. | Condition of Health. | Age at Death. | CAUSE OF DEATH. | How Long Sick. | Previous Health. | Was there Cough in last Illness? | Is it probable that he or she may have had Consumption? |
|---|---|---|---|---|---|---|---|---|
| Father. | | | | | | | | |
| Mother. | | | | | | | | |
| Brothers. | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Sisters. | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| *Father's side,* Grandfather | | | | | | | | |
| *Father's side,* Grandmother | | | | | | | | |
| *Mother's side,* Grandfather | | | | | | | | |
| *Mother's side,* Grandmother | | | | | | | | |

I Hereby Further Declare, *that I have read and understand all the above Questions put to me by the Medical Examiner, and the Answers thereto, and that the same are true, and that I am the same person described as above.*

.....*Person Examined.*

clearly set forth by vital statistics than that like will produce like. Long-lived parents beget long-lived children. Mr. Porter, in the paper referred to in the first part of this report, says: "Walker, in his work on Intermarriage, advances the theory that under certain restrictions the male gives to the progeny the external or locomotive organs, and the female the internal or vital organs. Arguing from analogy of breeding among animals, this is more than a mere theory; and the fact is well known to breeders of stock. So much, indeed, do certain known laws with respect to propagation prevail, and so thoroughly have they been made the subject of scientific investigation, that a cattle breeder can produce, within certain limits, almost any class of animal he desires."

"If we recognize the truth of this theory, the necessity for extreme caution on the part of life assurance companies in accepting the lives of individuals whose mothers have died from hereditary diseases becomes clearly apparent. Still, arguing from what has been proved to be the case with respect to animals, assurance companies might with reason carry their inquiries into the family history much farther than they have yet thought of doing."

According to the statistics of the Brompton Hospital for consumptives "it appears that females are more likely to inherit the disease than males in the proportion of two to one." Where one parent only was affected with pulmonary disease—the father being so affected—transmitted their disease to their sons in 63. out of 106 cases, being 59.4 per cent of the whole; to their daughters in 47 cases only out of 108, being 43½ per cent While the mothers being consumptive transmitted the disease to their sons in 43 cases, being 40.6 per cent; and to their daughters in 61 cases, being 56½ per cent of the cases. Judging from these figures it would appear that the transmission of

phthisis to sons by phthisical fathers and to daughters by phthisical mothers is almost identical.

Dr. John Stockton Hough, of Philadelphia, in an article "On the Laws of Transmission," in the *Medical Record*, 1873, page 577, says: "Females more frequently transmit hereditary diseases and defects than males, though they less frequently exhibit them. Males less frequently transmit and more frequently exhibit inherited diseases and defects."

The laws which govern longevity are more or less involved in the consideration of this subject, but I shall not tax your patience with a consideration of them at this time. M. Flourens maintained that man ought, by virtue of his natural constitution, to live a hundred years, and that his natural term of life is abridged only by his own improvidence, follies, and excesses. The length of human life he attempts to establish by the laws of growth and by analogy; namely, that every animal will live, on an average, five times the period of his growth. Thus, as it takes, on an average, twenty years for man to reach his perfect growth, the limit of life would be one hundred years.

Dr. Nathan Allen, in a paper read before the Public Health Association, in 1873, says all of the prerequisites for longevity may be summed up under three distinct heads; namely, constitution, inheritance, and obedience to law. These show that there is no fortuitous chance or mystery in them, but that they are all governed by laws which can be understood and obeyed. They expound the great laws of inheritance—the prerequisites of health. They explain the necessity of a sound constitution and a well-balanced organization. They show the relation and importance which human agency holds in propagating a sound and healthy stock. They teach every individual man clearly the peculiarities and weaknesses of his own constitution, as well as what are his particular dangers or liabilities to disease.